MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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INTRODUCTION.

The MONTHLY WEATHER REVIEW for July, 1901, is based on reports from about 3,100 stations furnished by employees and voluntary observers, classified as follows: regular stations of the Weather Bureau, 159; West Indian service stations, 13; special river stations, 132; special rainfall stations, 48; voluntary observers of the Weather Bureau, 2,562; Army post hospital reports, 18; United States Life-Saving Service, 9; Southern Pacific Railway Company, 96; Hawaiian Government Survey, 200; Canadian Meteorological Service, 32; Jamaica Weather Office, 160; Mexican Telegraph Service, 20; Mexican voluntary stations, 7; Mexican Telegraph Company, 3; Costa Rica Service, 7. International simultaneous observations are received from a few stations and used, together with trustworthy newspaper extracts and special reports.

Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, Director of the Meteorological Service of the Dominion of Canada; Mr. Curtis J. Lyons, Meteorologist to the Hawaiian Government Survey, Honolulu; Señor Manuel E. Pastrana, Director of the Central Meteorological and Magnetic Observatory of Mexico; Camilo A. Gonzales, Director-General of Mexican Telegraphs; Mr. Maxwell Hall, Government Meteorologist, Kingston, Jamaica; Capt. S. I. Kimball, Superintendent of the United States Life-Saving Service; Commander Chapman C. Todd, Hydrographer, United States Navy; H. Pittier, Director of the Physico-Geographic Institute, San Jose, Costa Rica; Captain François S. Chaves, Director of the Meteorological Observatory, Ponta Delgada, St. Michaels, Azores, and W. M. Shaw, Esq., Secretary, Meteorological Office, London; Rev. Josef Algué, S. J., Director, Phillipine Weather Service.

Attention is called to the fact that the clocks and self-registers at regular Weather Bureau stations are all set to seventy-fifth meridian or eastern standard time, which is exactly five hours behind Greenwich time; as far as practicable, only this standard of time is used in the text of the REVIEW, since all Weather Bureau observations are required to be taken and recorded by it. The standards used by the public in the United States and Canada and by the voluntary observers are believed to conform generally to the modern international system of standard meridians, one hour apart, beginning with Greenwich. The Hawaiian standard meridian is 157° 30′, or $10^h\ 30^m$ west of Greenwich. The Costa Rican standard of time is that of San Jose, $0^h\ 36^m\ 13^s$ slower than seventy-fifth meridian time, corresponding to $5^h\ 36^m$ west of Greenwich. Records of miscellaneous phenomena that are reported occasionally in other standards of time by voluntary observers or newspaper correspondents are sometimes corrected to agree with the eastern standard; otherwise, the local standard is mentioned.

Barometric pressures, whether "station pressures" or "sea-level pressures," are now always reduced to standard gravity, so that they express pressure in a standard system of absolute measures.

FORECASTS AND WARNINGS.

By Prof. E. B. GARRIOTT, in charge of Forecast Division.

In accordance with the general directions of the Secretary of Agriculture, the following forecast districts were established July 1, 1901:

Boston center.—All of the New England States.

Chicago center.—Illinois, Indiana, Michigan, Wisconsin, Minnesota, Iowa, Missouri, Kansas, Nebraska, South Dakota, North Dakota, and Montana.

Denver center.—Colorado, New Mexico, Arizona, Utah, and Wyoming.

San Francisco center.—California and Nevada.

Portland, Oreg., center.—Washington, Oregon, and Idaho.

Galveston center.—Texas, Oklahoma, and Indian Territory, and advisory warnings for Mexico, and charge of the cooperation between the Mexican Weather Service and the United States Weather Bureau.

Washington center.—All States not included in the foregoing districts.

The instructions provide that the official in charge of each forecast center shall issue morning forecasts, cold wave, frost, and other warnings, except hurricane and emergency warnings, and all storm warnings for his district, forwarding copies of the same immediately by telegraph to Washington, D. C. Night forecasts, synopses, and cold-wave warnings for all districts, except San Francisco, Cal., and Portland, Oreg., will be made at Washington. The officials in charge at San Francisco and Portland will make night forecasts and warnings for their respective districts.

Forecasts of the direction and force of the wind and the state of the weather along the transatlantic steamer routes from the American coast to the Banks of New Foundland were issued daily at 8 a. m. and 8 p. m. These forecasts covered the first three days out, of steamers bound east from United States ports, and the morning forecasts were published, together with forecasts of fog, in the weather maps issued at Boston, New York, Philadelphia, Baltimore, and Washington.

The principal meteorological feature of the month was the intense heat which prevailed in the States of the central valleys and the middle-west. The heated period began about June 20, and continued until July 26, and the records of maximum temperature were exceeded generally in the States of the middle and upper Mississippi and middle and lower Missouri valleys. During this period an absence of general rains resulted in drought conditions which caused great damage in the corn belt of the districts named. These conditions were covered in the daily forecasts and synopses and